

# Sensors & Diagnostics

rsc.li/sensors

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 2635-0998 CODEN SDEIAR 3(11) 1761-1878 (2024)



**Cover**  
See Masato Tominaga *et al.*,  
pp. 1827-1834.  
Image reproduced by permission  
of Masato Tominaga from *Sens.*  
*Diagn.*, 2024, 3, 1827.



**Inside cover**  
See Shalini Prasad *et al.*,  
pp. 1835-1842.  
Image reproduced by  
permission of Shalini Prasad,  
Kundan K Mishra from *Sens.*  
*Diagn.*, 2024, 3, 1835.

## EDITORIAL

1767

### Introduction to Supramolecular Sensors: From Molecules to Materials

Sankarasekaran Shanmugaraju,\* Robert B. P. Elmes\*  
and Valeria Amendola\*

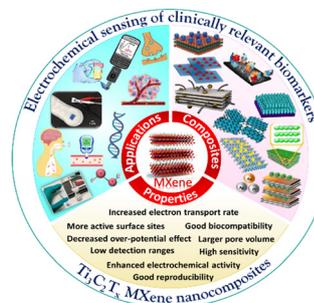


## CRITICAL REVIEWS

1769

### A review on $Ti_3C_2T_x$ based nanocomposites for the electrochemical sensing of clinically relevant biomarkers

Anjali Sugunan, Anusree V. Rethnakumaran  
and Mini Mol Menamparambath\*



# Royal Society of Chemistry approved training courses

Explore your options.  
Develop your skills.  
Discover learning  
that suits you.

**Courses in the classroom,  
the lab, or online**

Find something for every  
stage of your professional  
development. Search our  
database by:

- subject area
- location
- event type
- skill level

Members **get at least 10% off**

Visit [rsc.li/cpd-training](https://rsc.li/cpd-training)



**SAVE  
10%**

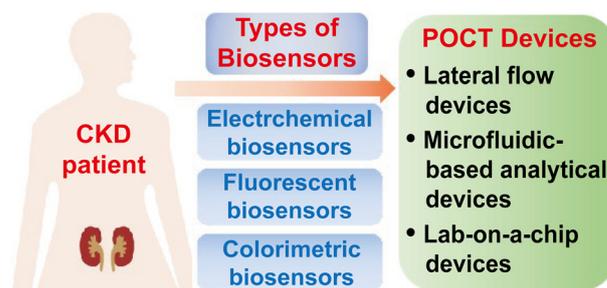


## CRITICAL REVIEWS

1789

## Point-of-care biosensors and devices for diagnostics of chronic kidney disease

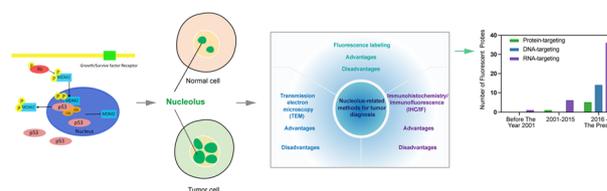
Yuan Liu,\* Xiping Zhao, Min Liao, Guoliang Ke\* and Xiao-Bing Zhang



1807

## Tumor diagnosis based on nucleolus labeling

Caiwei Jia, Jiani Gao, Dong Xie\* and Jin-Ye Wang\*

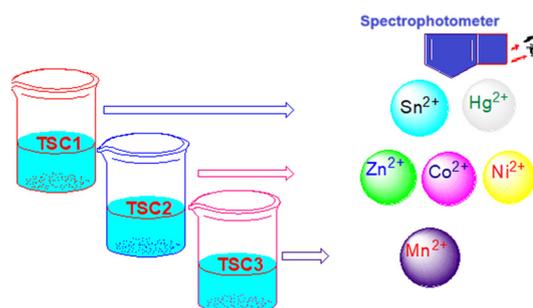


## COMMUNICATION

1822

## Novel thiosemicarbazone based sensors for transition metals

Repale Anil Vithal, Ram Kishore, Dongare Suvarna Janardan, N. S. Chundawat, Nitin Srivastava\* and Girdhar Pal Singh\*

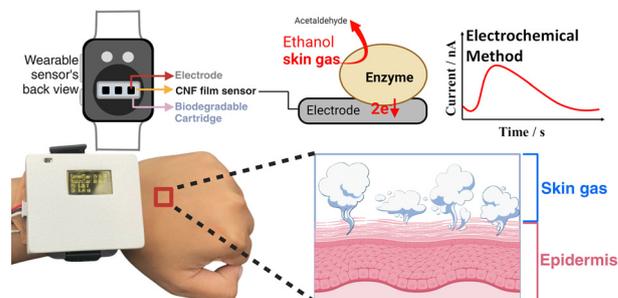


## PAPERS

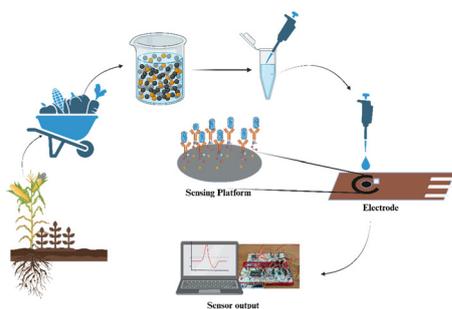
1827

## Highly sensitive flux-type non-invasive alcohol biosensor based on direct electron transfer of PQQ-dependent alcohol dehydrogenases adsorbed on carbon nanotubes

Citra Dewi Rakhmania, Yoshi Izzuddin Azhar, Kenji Shida, Erika Shinchi, Taiki Adachi, Keisei Sowa, Yuki Kitazumi, Osamu Shirai and Masato Tominaga\*



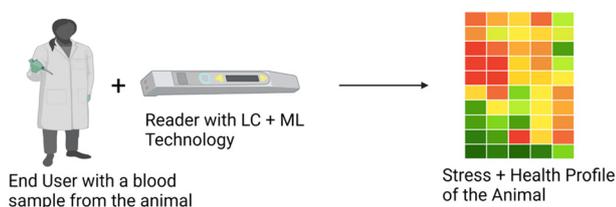
1835



### Development of a portable electrochemical sensing platform for impedance spectroscopy-based biosensing using an ARM-based microcontroller

Joseph Charles Khavul Spiro, Kundan Kumar Mishra, Vikram Narayanan Dhamu, Avi Bhatia, Sriram Muthukumar and Shalini Prasad\*

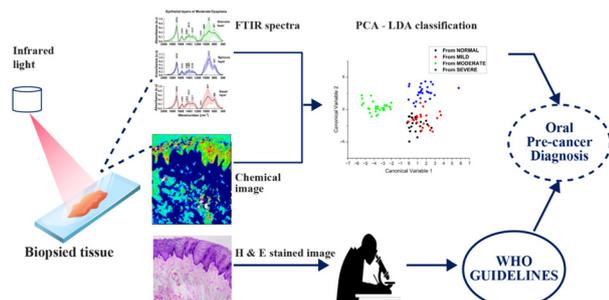
1843



### A liquid crystal-based biomaterial platform for rapid sensing of heat stress using machine learning

Prateek Verma, Elizabeth Adeogun, Elizabeth S. Greene, Sami Dridi, Ukash Nakarmi and Karthik Nayani\*

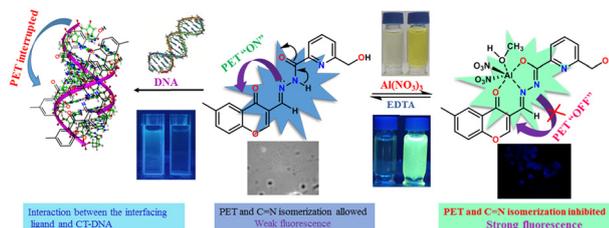
1854



### A comprehensive FTIR micro-spectroscopic analysis and classification of precancerous human oral tissue aided by machine learning

Pranab Jyoti Talukdar, Kartikeya Bharti, Sumita Banerjee, Sautami Basu, Sanjeet Kumar Das, Ranjan Rashmi Paul, Mousumi Pal, Mahendra Prasad Mishra, Saikat Mukherjee, Pooja Lahiri\* and Basudev Lahiri\*

1866



### Modulation of the binding sites for an adaptable DNA interactive probe: efficient chromo-fluorogenic recognition of $Al^{3+}$ and live cell bioimaging

Atanu Maji, Debarpan Mitra, Amitav Biswas, Moumita Ghosh, Rahul Naskar, Saswati Gharami Nabendu Murmu and Tapan K. Mondal\*

